

NUTRITIONAL NEEDS OF INDIVIDUALS AND FAMILIES ACROSS THE LIFESPAN

Nutrition Issues and Adolescents

Grade Levels: 9-12

Concept: Prenatal Nutrition

Comprehensive Standard: 6.2 Evaluate the nutritional needs of individual and families in relation to health and wellness across the lifespan

Technical Standard: 6.2.2 Examine the relationship of nutrition and wellness to individual and family health throughout the life span

LESSON COMPETENCIES:

- ? Discuss the nutritional needs of pregnancy
- ? Plan meals appropriate for meeting the nutritional needs of pregnancy

ANTICIPATED BEHAVIORAL OUTCOMES:

- ? Students recognize that food choices now impact their future health, including prenatal health.
- ? Students choose foods following the guidelines of the Food Guide Pyramid.

Resources Needed:

- Copies of the article *Eat Wisely for You and Your Baby* (see reference list)
- Copies of the Food Guide Pyramid for Pregnant Women and/or Pregnant Teens
- Copies of the current Dietary Reference Intakes (DRI) and Recommended Dietary Allowances (RDA) for each student (see reference section)
- White paper plates

References for teachers and students:

Two fact sheets, *Nutritional Needs During Pregnancy*, *Teenage Pregnancy and A Healthy Lifestyle* and a Food Guide Pyramid for Pregnant Women as well as a Food Guide Pyramid for Pregnant Teens are available at the Ohio State University Cooperative Extension Service website at <http://ohioline.osu.edu> Click on **FOOD** and then search under General Nutrition.

Another fact sheet, *Eat Wisely for You and Your Baby*, is available from the Iowa State University Cooperative Extension Service
<http://www.extension.iastate.edu/Publications/PM813.pdf>

The March of Dimes website has information on nutrition and birth defects. The website is www.modimes.org

A reprint of an article from the FDA Consumer, *How Folate Can Help Prevent Birth Defects* is available at the site www.fda.gov/fdac/features/796_fol.html

The Centers for Disease Control and Prevention (CDC) has an article, *Folic Acid Now: Before You Know You're Pregnant* and other resources on folic acid and birth defects which can be accessed at www.cdc.gov/ncbddd/fact/folnow.htm

A booklet, *A Good Start, Nutrition During Pregnancy*, can be downloaded at http://www.beefnutrition.org/documents/GOOD_START_brochure.pdf

Copies of the RDI and RDA tables are accessible at the Food and Nutrition Information Center at www.nal.usda.gov/fnic/etext/000105.html Click on **Table of 1989 RDS and 1997-98 DRI**

Background Information

Pregnancy is a nutritionally demanding time. A woman's body needs enough nutrients to support the growth of the baby as well as personal nutritional needs. Pregnant women need more calories and essential nutrients than other women. If the nourishment to the baby is inadequate, the baby may not develop normally.

Nutritional status impacts an individual's ability to grow, to learn, to work, and to fight disease. Research studies have found that children born to mothers with inadequate diets are more likely to be born premature and underweight, to die within the first year of life and to have physical defects (Berk, L. 1996. *Infants and Children Prenatal Through Middle Childhood*, Second Edition, Allyn & Bacon, Boston, MA)

According to a report from The March of Dimes Task Force on Nutrition and Optimal Development, *Nutrition Today Matters Tomorrow*, women's nutritional status before conception may contribute to positive or negative outcomes during pregnancy and in the infant. For example,

- ? Women with low folate status in the periconceptual period are at significantly elevated risk of giving birth to a child with spina bifida or a related neurological defect.
- ? Women who are underweight before pregnancy, particularly immature adolescents, have a higher risk of giving birth to a low birth weight infant.
- ? Women who are obese before conception may experience complications during pregnancy and childbirth. In addition, they are at higher risk of having babies with congenital malformations.

According to the report, an adequate of vitamins and minerals is **particularly important for adolescent girls in preparation for motherhood**. Problems of deficiencies are best documented for 7 micronutrients: iron, iodine, vitamin A, zinc, folate, vitamin D and calcium. These vitamins and minerals enable us to use the energy provided by foods; build, maintain and repair cell and tissue structures; and perform critical biochemical transformations.

Learning Activities:

High School Level

- ? Ask students to complete the pretest on *Nutrition and a Healthy Baby*
- ? Students read the article *Eat Wisely for You and Your Baby*. After reading the article, ask students to look over the pretest again and make any changes. Discuss the information in the article with students.
 - Why is it so important for women to eat right before and during pregnancy?
 - Why is good nutrition important even before pregnancy?

- Why do pregnant women have increased nutritional needs for their own bodies as well as for the needs of the baby?
 - What factors influence the amount of weight a woman should gain during pregnancy?
 - Why should foods such as cookies, cakes, doughnuts, chips, soft drinks and pie be avoided?
 - Why would a doctor be concerned if a pregnant woman had gained less than 10 pounds during pregnancy?
 - What things need to be considered when taking prenatal vitamins?
 - What are some things that help “morning sickness”?
 - Why should smoking, drinking and taking drugs be avoided?
 - What about caffeine and aspartame?
- ? Working in groups of two and using the Food Guide Pyramid for Pregnant Woman and the Dietary Guidelines, give each team a paper plate. Ask students to plan a daily meal plan for a pregnant woman and/ or a pregnant teen and write it on the paper plate.
- ? Upon completion of the menu, ask students to see if their choices will meet the DRI/RDA for key nutrients for a pregnant woman using the DRI/RDA tables. Use the *Measuring Up Your Menu Plan* handout.